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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,177	02/21/2002	Larry Paul Heck	003932.P018	2744

7590   02/28/2005

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EXAMINER
SERROU, ABDELALI

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) *1-28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) *1-28* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _02/21/02_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2.   Claims 1-28 are rejected under 35 U.S.C 102(e) as being anticipated by Sharma et

al. (U.S Patent 6, 539, 352, issued March 25, 2003).

3.   As per claims 1, 7, 11, 23, and 26 Sharma et al. teach a system, method, and a

machine-readable medium that comprise:

- Receiving a first (enrollment) utterance from an intended talker (user) during

  enrollment at an integrated speech and speaker recognition system (During

  enrollment, the user speaks the password, which is sampled by the system,

  column 3, line 27, 28);

- Generating a voice characteristic model for the user (Feature extraction is then performed to extract features of the user's voice, column 3, line 41, 42);

- Receiving a second (test) utterance from the intended talker at the speaker recognition system (during verification, the speaker speaks the password into the system, column 4, line 32, 33). As mentioned in column 13, lines 56-59, the system uses a "key-word/key-phrase spotter" to separate the test speech (second utterance) from background noise and sounds, implying that the second utterance is in a noisy environment;

- Computing a speaker verification score with the voice characteristic model associated with a test portion of speech. In the verification the "test speech" password gets processed in the same manner as the enrollment phase (column 4, line 33, 34) wherein the voice features are extracted (column 3, lines 41-43), then the "test speech" password is segmented and scored as described above in the case of the speech recognition;

- Computing a speech recognition score associated with the portion of speech. During the process of the second utterance "test speech" (column 4, line 28) Sharma et al. teach a system that also recognizes the password phrase or the "test speech" associated with the portion of the speech (column 4, lines 27-31), segments the password into subwords and uses multiple classifiers to score the subwords (column 5, line 10, 11);

- Generating a combined score by combining the speaker verification score and the speech recognition score (the scores are fused or combined, column 5, line 11, 12);

- Inherently selecting a best hypothesis associated with the second utterance and based upon the combined score (If the final score exceeds or equals the threshold, the test sample is verified as the user's. If the final score is less than the threshold, the test sample is declared not to be the user's, column 5, lines 14-16).

4.   As per claims 2, 9, 12 and 18, based on the rejection used above, Sharma et al. teach processing a portion of speech of the utterance received from the user, wherein the portion of the speech includes a password phrase (column 4, line 65).

5.   As per claims 3, 10, 13, and 19 Sharma et al. teach altering a search path in Viterbi search used by the speech recognizer (Viterbi or Dynamic programming (DP) based algorithms are used to locate the optimal boundaries for the subword segments, column 15, lines 55-57)

6.   As per claims 4, 14, and 20 Sharma et al. teach the use of a hotword speech recognition to identify the talker (Key word/key phrase spotting is used to optimally locate the password, column 2, line 60-61) . .

7.   As per claims 5, 15, and 21 Sharma et al. combat the effect of the background noise (column 4, line 63-64) such as speech and music (column 4, line 56-57)

8.   As per claims 6, 16, and 22 Sharma et al. teach voice feature (characteristic) extraction wherein voice characteristics include voice print, stored in a voice print

database (column 6, line 36), personal profile (column 3, line 37-39) and linguistic

characteristics that are unique to the talker voice(inherent in Feature extraction ˙ ‥ ˋ

performed to extract features of the user's voice, such as pitch, spectral frequencies,

intonations, column 3, lines 41-43).

9.   As per claim 8, Sharma et al. teach a speech input device that comprises cellular,

analog, and digital phone, and voice over internet protocol device (The enrollment speech

may be obtained via a receiver, telephone or other sources, and be received from any

transmission media, digital or analog, including terrestrial links, land lines, satellite,

microwave, column 6, lines 45-49).

10.   As per claim 24, Sharma et al. teach a voice characteristic model such as pitch,

spectral frequencies, and intonations (column 3, lines 42, 43) that are stored in a voice

print database (column 3, line 48, 49) that will serve as model database during

verification phase.

11.   As per claim 25, Sharma et al. teach a method of obtaining the voice characteristic model

from the enrollment speech (including a first portion of the utterance).

12.   As per claim 27, since Sharma et al. teach a CPU for speech recognition and

verification (column 5, line 63), it's inherent that the system includes a speech server that

comprises the software entities to execute the application. Furthermore, to able to

process the input speech, a processor, memory, and a bus are inherent in the system in

order to store the software entities and process the speech.

13.   As per claim 28, Sharma et al. teach an inherent database connected to the speech

server wherein the voice characteristic model of the talker is stored (An enrollment

component is used to characterize a known user's voice and store the characteristics in a

database, so that this information is available for future comparisons column 3, lines 23-

25)

Conclusion

14-   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Erhart et al. (U.S 6, 243, 678) teach a speech recognition system

that generates a word score and determine whether the received speech utterance matches

the stored text string. Maes (US 6,477, 500) teach a speaker recognition and verification

system that can be used in call center type of environment to accept customer's
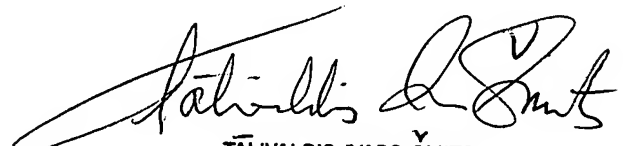
commands or requests.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Abdelali Serrou whose telephone number is 703-305-

0513. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Talivaldis Smits can be reached on 703-306-3011. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
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more information about the PAIR system, see http://pair-direct.uspto.gov. Should you
have questions on access to the Private PAIR system, contact the Electronic Business
Center (EBC) at 866-217-9197 (toll-free).

Abdelali Serrou
02/22/2005

TALIVALDIS IVARS SMITS
PRIMARY EXAMINER